AMENDMENTS TO THE DRAWINGS

Figures 1-4 are amended as described in Applicant's remarks.

Attachment: Replacement Sheets

REMARKS

Summary Of The Office Action & Formalities

Status of Claims

Claims 1-10 are all the claims pending in the application. By this Amendment, Applicant is amending claims 1, 2, 3, 9, and 10, and adding new claims 11-18.

Request for Interview

Given the extensive number of issues raised by the Examiner in the present Office Action, Applicant believes that it would expedite prosecution to conduct an in person interview and kindly requests the Examiner to contact the undersigned Attorney at (202) 663-7468 regarding a convenient time for conducting an interview.

Claim to Foreign Priority

Applicant thanks the Examiner for acknowledging the claim to foreign priority and confirming that the certified copy of the priority document was received.

Information Disclosure Statement

The Examiner has lined through the reference listed on form PTO/SB/08 submitted with the Information Disclosure Statement filed on February 24, 2005, alleging that no abstract was provided. Applicant is submitting herewith a full copy of the Japanese language document.

Drawings

The Examiner has objected to the drawings filed on February 24, 2005, because Figs. 1-3 are not designated by a legend such as --Prior Art--. *See* Office Action at page 2. Applicant is submitting drawing amendments to add this legend.

The drawings are also objected to because they do not show the optional elastomer damper material inserted in the space between the shank and the through hole as recited in claim 9. *See* Office Action at page 2. Applicant is amending Fig. 4 to show the optional elastomer damper E. Applicant is also amending the specification to reference letter E.

The drawings are further objected to because certain reference characters used in Figs. 1-3 have also been used in Fig. 4. *See* Office Action at pages 2-4. Applicant is amending Figs. 1-3 to change reference numbers 2, 14, 15, 16, 17, 18, and 19 to 2', 14', 15', 16', 17', 18', and 19'.

The drawings are objected to because reference characters "19" and "19a" have both been used to designate the same shank in Figure 4. *See* Office Action at page 4. Applicant respectfully disagrees, as reference numeral 19a designates a portion of shank 19.

The drawings are objected to because reference characters "16b" and "116b" have both been used to designate the same segment in Figure 4. *See* Office Action at page 4. Applicant respectfully disagrees, as reference numeral 116b designates a circularly cylindrical proximal portion of the enlarged proximal segment 16b.

The drawings are objected to because the cross hatching in Figures 1-3 is not properly shown. *See* Office Action at page 4. The Examiner is kindly requested to explain specifically what changes are required and for which figures.

The drawings are objected to because the arrows 7 and 9 representing gas are not proper since arrows are allegedly only used to represent direction or force. *See* Office Action at page 4. Applicant respectfully disagrees, as there is no required convention for the style of arrows designating the flow of gas.

The drawings are objected to because the lead line of reference character "I" is missing in Fig. 1. *See* Office Action at page 4. Applicant is correcting Fig. 4 accordingly.

The drawings are also objected to because: the arrow showing the screw 17 needs to be away from the head of the screw in Fig. 2; the lead line of reference character "16" in Fig. 2 should be pointing to the hole and not the shank of the screw; the same applies to the tapped hole in Fig. 3; reference character "6" in Fig. 4 should be pointing to the aperture without the arrow; the lead line in reference character 16b should be shown without the arrow to show a segment of the through hole 16 and not the hole as a whole; and the lead line of reference character 22 ends at the outside face of the flange and should show the washer instead. *See* Office Action at pages 4-5. Applicant is amending the drawings accordingly.

Regarding the Examiner's position that the tapped hole "15" does not appear to be threaded in Figures 1-3 to render being tapped and the lead line of reference character 15 in Figure 4 points to the thread instead of the hole, Applicant respectfully disagrees. Figures 1-3 are highly schematic views and need not illustrate every detail of the tapped hole in order for one

skilled in the art to understand the disclosure. Also, in Fig. 4, reference character 15 does point to the hole. The thread of the screw is within the hole and therefore overlaps.

Specification

The Examiner objects to the abstract of the specification for minor reasons addressed by the foregoing amendments.

Claim Objections

Claims 1-3 and 10 are objected to because of certain alleged informalities that are addressed in the amendments.

Claim Rejections - § 112

Claims 1-10 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the reasons set forth at pages 7-10 of the Office Action. Specifically, regarding claim 1, the Examiner states:

> there is an inconsistency between the language in the preamble and a certain portion in the body of the claim, thereby making the scope of the claims unclear. The preamble clearly indicated that the fastener system is "for fastening a vacuum pump (1) to a wall (2) of a stationary structure (3), in which a coaxial annular flange (14) is provided on the vacuum pump body (4) around the suction orifice (6), tapped holes (15) are provided in the wall (2) of the stationary structure (3), through holes (16) are provided in the coaxial annular flange (14), and screws (17) having heads (18) are fitted so that their shanks (19) pass through the through holes (16) and are screwed into the associated tapped holes (15)". However, the body of the claim positively recites "each through hole" in the flange of the vacuum pump, e.g., "the system being characterized in that each through hole comprises" (line 8), which indicates that the claims are being drawn to a combination of the "through holes" and both "the coaxial annular flange" and "the vacuum pump".

> Accordingly, is the combination or subcombination being claimed? Appropriate correction, clarification, or both is required. For purposes of this Office action, the examiner has considered the subcombination.
>
> It is also unclear what else the fastener system is comprised other than the through holes. Further, the location of the enlarged proximal segment in the recitation "that is adjacent to the wall of the stationary structure" in lines 10 and 11 cannot be made in reference to components that are not claimed, i.e., the wall of the stationary structure.

Office Action at pages 7-8. Applicant respectfully disagrees. Claim 1 clearly recites a fastening system, which can include coaxial flanges and through holes without requiring the entire pump structure to be an element of the claim. Nevertheless, Applicant is amending claim 1 for clarity and as a path of least resistance.

Regarding claim 2, the Examiner states:

> Regarding claim 2, it is unclear what shape is required to allow the proximal segment during "bending of the screw shank until it comes into abutment against the side wall of the proximal segment" other than being cylindrical as recited in claim 1, lines 9-10. Further, the recitation "that is possible" in line 4 makes the lateral offset being not concrete and concise. Note that a claim cannot be drafted with the notion of possibilities since one skilled in the art does not know how to determine what is or what is not possible.

Office Action at pages 8-9. Applicant respectfully disagrees. It is not necessary for the claim to recite only one particular shape. Rather, it is permissible to restrict the shape in terms of functional requirements as set forth in claim 2.

The rejection under 35 U.S.C. 112 of claims 5, 8, and 9 is addressed in connection with claim 1 above.

Regarding claim 10, Applicant has rewritten this claim in independent form.

Art Rejections

1. Claims 1, 2, 5-8 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nguyen et al. (US 6,176,663).

2. Claims 1 and 9 are rejected under 35 U.S.C. § 102(b) as being anticipated by Allart et al. (US 5,220,854).

3. Claims 1, 3 and 4 are rejected under 35 U.S.C. § 102(b) as being anticipated by Carlson (US 2,560,413).

4. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Carlson (US 2,560,413).

Applicant traverses.

Claim Rejections - 35 U.S.C. § 102

1. Claims 1, 2, 5-8 And 10 In View Of Nguyen et al. (US 6,176,663).

In rejecting claims 1, 2, 5-8 and 10 in view of Nguyen et al. (US 6,176,663), the grounds of rejection state:

> Regarding claim 1, Nguyen et al. disclose, in Figure 3, a fastener system comprising through holes **112** each comprising a distal segment (the bottom section of the counterbore **128**; Fig. 2) being cylindrical followed by an enlarged proximal segment **128** being cylindrical about an axis.
>
> Regarding claim 2, the proximal segment **128** of the through holes **112** is of a shape. The proximal segment **128** is of a length greater than the length of the distal segment.
>
> Regarding claim 5, the fastener comprises a screw **144** having a screw shank and a head. The shank comprises, adjacent to the head, a smooth shank segment of diameter considerably smaller than the diameter of the distal segment and followed to a free end by a threaded segment.

> Regarding claim 6, the diameter of the smooth shank segment is less than or equal to 80% of the diameter of the distal segment.
>
> Regarding claim 7, the proximal segment **128** is of a length greater than or equal to **1.5** times the length of the distal segment.
>
> Regarding claim 8, the system further comprises a flange **102**, a washer **130** and a screw **144** having a head. The washer **130** is interposed between the head and an adjacent outside face of the flange **102**.
>
> Regarding claim 10, Nguyen discloses a vacuum pump comprising a fastener flange **102** having the through holes **112** in accordance with the system rejected in claim 1.

Office Action at pages 10-12. Applicant disagrees.

Claim 1 recites a distal segment that is cylindrical ***followed*** by an enlarged proximal segment that is cylindrical about the same axis and that is ***adjacent to*** the wall of the stationary structure or the corresponding tapped hole.

Referring to Fig. 2 of Nguyen et al., on the other hand, the counterbore 128 is not adjacent to a stationary structure or a corresponding tapped hole. Rather, the alleged distal segment is between the counterbore and the tapped hole. This is directly opposite to Applicant's claimed structure. That is, the grounds of rejection reverse the locations of the distal and proximal segments in order to contend that Nguyen et al. teaches the limitations of this claim. However, such an interpretation of claim 1 does not account for the clear and explicit language regarding the location of the proximal segment.

Regarding claim 2, the grounds of rejection do not address all the limitations of this claim. For example, claim 2 recites that the shape of the proximal segment is such that when the screw shank is bent until it comes into abutment against the side wall of the proximal segment of

the through hole (16), the lateral offset (D) that is possible between the through hole (16) and the associated tapped hole (16) is greater than the radius of the screw shank (19). This limitation further defines the structure of the proximal segment in terms of the behavior of the shank under bending loads. Such a limitation cannot be ignored or erased from the claim and must be given proper patentable weight, which the grounds of rejection do not do.

Claim 2 further recites that the proximal segment of the through hole is of a length greater than the length of the distal segment of the through hole. The grounds of rejection only *conclude* that this feature is disclosed in Nguyen et al., apparently relying on Fig. 3 of the patent. However, the patent does not disclose that the drawings are to scale and, therefore, the Examiner is taking away more information than is permitted. Indeed, proportionality of features in a drawing are not evidence of actual proportions when the drawings are not to scale. *See* Manual of Patenting Examining Procedure ("MPEP") 2125.§.

Likewise, regarding claim 6, as the drawings of Nguyen et al. are not disclosed as being to scale, it is improper to rely on these drawings to assert that they teach that a diameter of the smooth shank segment is less than or equal to 80% of the diameter of an alleged distal segment of the through hole.

Similarly, regarding claim 7, as the drawings of Nguyen et al. are not disclosed as being to scale, it is improper to rely on these drawings to assert that they teach that the alleged proximal segment of the through hole is of a length greater than or equal to 1.5 times a length of the alleged distal segment of the through hole.

Finally, regarding claim 10, Nguyen et al. does not disclose a pump as alleged. To the contrary, the flange coupling disclosed in Nguyen et al. relates to the oil and gas industry where large diameter tubular members with flanged end connections, called "risers" or "riser joints," are used.

In view of at least the foregoing reasons, the Examiner is kindly requested to reconsider and withdraw the rejection of claims 1, 2, 5-8 and 10 in view of Nguyen et al.

2. Claims 1 And 9 In View Of Allart et al. (US 5,220,854).

In rejecting claims 1 and 9 in view of Allart et al. (US 5,220,854), the grounds of rejection state:

> Regarding claim 1, Allart et al. disclose, in Figure 1, a fastener system comprising through holes each comprising a distal segment **7** being cylindrical followed by an enlarged proximal segment **14** being cylindrical about an axis.
>
> Regarding claim 9, Allart et al. disclose, the fastener system further comprises a screw **9** having a shank and an elastomer damper material **12**. The elastomer damper material **12** is inserted in a space between the shank and the through hole.

Office Action at page 12. Applicant disagrees.

In particular, regarding claim 1, again, the grounds of rejection reverse the locations of the distal and proximal segments in order to argue that Allart et al. teaches the limitations of this claim. This interpretation is contrary to the clear language of the claim and Applicant requests the Examiner to reconsider and withdraw the rejection of claims 1 and 9 in view of Allart et al. for at least this reason.

3. Claims 1, 3 And 4 In View Of Carlson (US 2,560,413).

In rejecting claims 1, 3 and 4 in view of Carlson (US 2,560,413), the grounds of rejection state:

> Regarding claim 1, Carlson discloses, in Figures 1 and 3, a fastener system comprising through holes **22** each comprising a distal segment **28** being cylindrical followed by an enlarged proximal segment **Al** (see marked-up attachment) being cylindrical about an axis.
>
> Regarding claim 3, the proximal segment **Al** includes a cylindrical proximal portion **A2** connected to the distal segment **28** by a circularly frustoconical distal portion **A3**.
>
> Regarding claim 4, the frustoconical portion **A3** has a cone half-angle equal to about 60 degrees.

Office Action at pages 12-13.

Concerning Carlson's disclosure, the technical problem to be solved is quite different than in the present invention. The dowel bushing 32 is used as a rigid guide in order to provide alignment between the bearing members 12 and 14 (*see* column 4, lines 56 58). The dowel bushing 32 is a one-piece member that links the bearing members 12 and 14. Thus, no lateral offset occurs, and the screw is not allowed to bend.

In the claimed device, there is no piece linking the flange and the stationary structure. The stationary structure including tapped holes is not a part of the fastener system. The structure and the system are independent and not linked, except by the screw.

The dimension of the tapped hole, provided in the wall of the stationary structure, is defined by a standard (*see* page 2, lines 9 12). Whatever the pump to be connected, the flange must be fixed using the standard tapped holes.

Claim Rejections - 35 U.S.C. § 103

1. Claim 9 Over Carlson (US 2,560,413).

In rejecting claim 9 over Carlson (US 2,560,413), the grounds of rejection state:

> Regarding claim 9,[ ]Carlson discloses the system further comprises a screw having a shank and a material inserted in a space between the shank and the through hole. However, the material is not an elastomer damper (as seen by the cross-section). However, Carlson suggests, in column 4, lines 10-16, any material possessing qualities of flowing and conforming to the bores can be used). Thus, one can use rubber, an elastomer damper material, since rubber possesses qualities of flowing and conforming to bores when being compressed. Therefore, as taught by Carlson, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose rubber, an elastomer damper material, since rubber flows and conforms to bores when being compressed.

Office Action at pages 14-15.

Without substantively commenting on or agreeing with the grounds of rejection of claim 9, this claim is allowable at least by reason of its dependency.

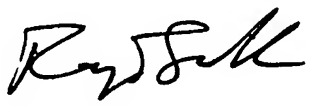
New Claims

For additional claim coverage merited by the scope of the invention, Applicant is adding new claims 11-18.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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